

**REMARKS**

By this Amendment, Applicant amends claims 29, 32, and 35 for clarity and to more appropriately define the present invention, and cancels claims 20-24 and 26-28 without prejudice or disclaimer of the subject matter thereof. Claims 25 and 29-37 are pending in this application.

At the outset, Applicant gratefully acknowledges the Examiner's indication of allowable subject matter in claim 25.

In the Final Office Action mailed March 30, 2004, the Examiner objected to claims 32 and 35 due to informalities. Applicant has amended claims 32 and 35 to correct these informalities and thus the Examiner should withdraw the objection.

Applicant respectfully traverses the Examiner's rejection of claims 26-28 under 35 U.S.C. § 112, first paragraph, and the rejection of claims 20-23 under 35 U.S.C. § 103(a) as unpatentable over Wu et al. (U.S. Patent No. 6,496,481) in view of Uota (U.S. Patent No. 6,292,470). In order to expedite prosecution of the present application, however, Applicant has canceled claims 20-23 and 26-28, thereby rendering these rejections moot.

The Examiner also rejected claims 24 and 32-34 under 35 U.S.C. § 103(a) as unpatentable over Wu in view of Uota and further in view of Ahern (U.S. Patent No. 6,070,214); rejected claims 29-31 under 35 U.S.C. § 103(a) as unpatentable over Guha (U.S. Patent No. 5,699,369) in view of Ahern and Drynan et al. (U.S. Patent No.

4,617,657); and rejected claims 35-37 under 35 U.S.C. § 103(a) as unpatentable over Guha in view of Ahern and Dolkas et al.<sup>1</sup> (U.S. Patent No. 5,007,051).

Applicant respectfully traverses the Examiner's rejection of claims 24 and 32-34 under 35 U.S.C. § 103(a) as unpatentable over Wu in view of Uota and further in view of Ahern, and note that the Examiner's rejection is moot with respect to canceled claim 24. Moreover, insofar as the Examiner's rejection is applicable to amended claim 32, Applicant submits that to establish a proper *prima facie* case of obviousness under 35 U.S.C. § 103(a), the Examiner must demonstrate each of three requirements. First, the reference or references, taken alone or combined, must teach or suggest each and every element recited in the claims. See M.P.E.P. § 2143.03 (8<sup>th</sup> ed. 2001). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the references in a manner resulting in the claimed invention. See M.P.E.P. § 2143.01 (8<sup>th</sup> ed. 2001). Third, a reasonable expectation of success must exist. See M.P.E.P. § 2143.02 (8<sup>th</sup> ed. 2001). Moreover, each of these requirements must be found in the prior art, not in applicant's disclosure. See M.P.E.P. § 2143 (8<sup>th</sup> ed. 2001).

Applicant's claim 32 recites a combination including, among other things, "a transmitter that repeatedly transmits a predetermined number of blocks of data from the first controller to the second controller without waiting for a response from the second controller, the transmitted blocks of data having consecutive identifier numbers" and "a

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<sup>1</sup> The Office Action at page 8 refers to Drynan instead of Dolkas. However, at page 9, the Examiner cites Dolkas. Applicant thus believes the Examiner intended to reject claims 35-37 over Dolkas and the other cited references and requests the Examiner to so clarify in the next Office communication.

transmission controller that makes the transmitter stop repeatedly transmitting the predetermined number of blocks of data and instead repeatedly transmits another predetermined number of blocks of data from the first controller to the second controller without waiting for a response from the second controller, the another predetermined number of blocks of data including blocks of data having identifier numbers that follow the identifier number of the latest response.” Wu, Uota, and Ahern, taken alone or in combination, do not disclose or suggest at least these features.

By contrast, Wu discloses retransmitting unacknowledged packets preemptively when a system is in an idle state. See col. 3, lines 37-39. Wu also discloses that an acknowledgment (ACK) control window will not move forward unless an incorrect packet has been correctly recovered. See col. 13, lines 33-36. As shown in Figure 4 of Wu, an ACK packet is sent only once for each period. See also col. 13, lines 23-24. Further, Fig. 3(b) shows that the ACK packet only includes a starting packet ID (SID) and an ending packet ID (EID) for indicating the sequence. See also col. 8, lines 49-56. Thus, the ACK packet disclosed by Wu only includes a starting packet ID and an ending packet ID, but does not include a packet number for a received packet.

Accordingly, Wu does not disclose or suggest at least “a transmitter that repeatedly transmits a predetermined number of blocks of data from the first controller to the second controller without waiting for a response from the second controller, the transmitted blocks of data having consecutive identifier numbers,” as recited in claim 32.

The Examiner conceded that Wu “fails to disclose that data required to transmit a bus transaction is transmitted between first and second controllers respectively

connected to first and second buses" (Office Action, page 5). The Examiner also alleges that Ahern makes up deficiencies of Wu. Applicant respectfully disagrees.

Ahern discloses a bridge accessible by a host process that can expand access over a first bus to a second bus. The first bus and the second bus are each adapted to separately connect to respective ones of a plurality of bus-compatible devices. Ahern also teaches that address and data are taken from a bus one transaction at a time and together with four bits that act either as control or byte enable signals. See col. 4, lines 29-31. Ahern, however, does not make up for the deficiencies of Wu discussed above.

The Examiner also alleges it would have been obvious to one of skill in the art at the time of the invention to combine Ahern and Wu "to allow for the expansion of the computer system of Wu through the use of a fiber option, point-to-point link between first and second bridge controllers" (Office Action, page 6). The Examiner has not indicating any suggestion arising from the references for making such a proposed combination. Nor has the Examiner offered a reasonable expectation of success for making the proposed combination. "The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." M.P.E.P. § 2143.01, p. 2100-124, *citing In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Uota discloses a data transmission system for transmitting packetized data between two data terminals directly connected to each other in a one-to-one data communication system. Uota, however, taken alone or in combination with Wu and Ahern, does not disclose or suggest at least "a transmitter that repeatedly transmits a predetermined number of blocks of data from the first controller to the second controller

without waiting for a response from the second controller, the transmitted blocks of data having consecutive identifier numbers,” as recited in claim 32.

Moreover, Applicant respectfully notes that the Examiner has not cited any portion of Uota in support of the rejection of claims 32-34. In light of the failure of the Office Action to adequately address these claims, Applicant submits that claims 32-34 are not obvious over the Examiner’s proposed combination of references, including Uota.

In view of the above-described deficiencies of Wu, Ahern, and Uota, Applicant submits that claim 32 is allowable over the applied prior art and claims 33 and 34 are allowable at least due to their dependence from claim 32.

Applicant respectfully traverses the rejection of claims 29-31 under 35 U.S.C. § 103(a) as unpatentable over Guha in view of Ahern and Drynan.

Applicant’s claim 29 recites a combination including, among other things, “a first controller that transmits a predetermined number of blocks of data to a second controller without waiting for an acknowledgment from the second controller, the transmitted blocks of data having consecutive identifier numbers” and “a response unit that transmits from the second controller to the first controller the acknowledgement when the second controller correctly receives a block of data and a re-transmission request when the second controller does not correctly receive a block of data, the acknowledgment having the identifier number of the received block of data, the re-transmission request having no identifier number.” Guha, Ahern, and Drynan, taken alone or in combination, do not disclose or suggest at least these features.

By contrast, Guha discloses that a receiver of a frame will send acknowledgements to the sender on a per frame basis. If the sender does not receive the proper sequence of acknowledgements, it will retransmit the unacknowledged frames. See col. 8, line 65 to col. 9, line 2. Thus, the receiver sends acknowledgements to the sender on a per frame basis. In addition, the acknowledgement does not include an identifier of the received block. Instead, if the sender does not receive the proper sequence of acknowledgements, the sender will retransmit the unacknowledged frames.

Applicant also notes that the Examiner states in the Office Action at page 7 that Guha discloses that if the sender does not receive the proper transmission, retransmission is performed. The Examiner then concludes that Guha implies that the ACKs are numbed sequentially and the packages are transmitted sequentially according to their sequence numbers. Applicant takes issue with the Examiner's presumed Official Notice and refers the Examiner to the February 21, 2002 Memorandum from USPTO Deputy Commissioner for Patent Examination Policy, Stephen G. Kunin, regarding "Procedures for Relying on Facts Which are Not of Record as Common Knowledge or for Taking Official Notice." In relevant part, the Memorandum states, "If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding" (Memorandum, p. 3). Applicant respectfully traverses the Examiner's presumed taking of "Official Notice," noting the impropriety of this action, as the Federal Circuit has "criticized the USPTO's reliance on 'basic knowledge' or 'common sense' to support an

obviousness rejection, where there was no evidentiary support in the record for such a finding.” *Id.* at 1. Applicants submit that “[d]eficiencies of the cited references cannot be remedied by ... general conclusions about what is “ basic knowledge” or “common sense.”” *In re Lee*, 61 USPQ2d 1430, 1432-1433 (Fed. Cir. 2002), quoting *In re Zurko*, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001).

Should the Examiner maintain the rejection after considering the arguments presented herein, Applicants submit that the Examiner must provide “the explicit basis on which the examiner regards the matter as subject to official notice and allow Applicants to challenge the assertion in the next reply after the Office action in which the common knowledge statement was made” (*Id.* at 3, emphasis in original), or else withdraw the rejection.

In addition, the Examiner admits that Guha does not disclose all of the features of Applicant’s claim 29, noting that Guha “fails to disclose a first controller and a second controller or that the retransmission request has no identifier number” (Office Action, page 9). The Examiner then alleges that Ahern and Drynan make up for the deficiencies of Guha. Applicant respectfully submits that even if Ahern and Drynan disclose such teachings as alleged by the Examiner, which Applicant does not concede, the applied prior art still fails to teach at least all of the features of claim 29 discussed above. Claim 29 is therefore allowable over the Examiner’s proposed combination of Guha, Ahern, and Drynan. Claims 30 and 31 are also allowable at least due to their dependence from claim 29.

Applicant respectfully traverses the rejection of claims 35-37 under 35 U.S.C. § 103(a) as unpatentable over Guha in view of Ahern and Dolkas.

Applicant's claim 35 recites a combination including, among other things, "a first transmitter that transmits a predetermined number of blocks of data from the first controller to the second controller without waiting for a response from the second controller, the transmitted blocks of data having consecutive identifier numbers," "an error detector that detects a link error between the first controller and the second controller when the first controller receives the responses having nonconsecutive identifier numbers," and "an error recovery processing unit that repeatedly exchanges a predetermined bit pattern between the first controller and the second controller and transmits from the second controller to the first controller a re-transmission request requesting re-transmission of the blocks of data that are not correctly received by the second controller when a condition in which a serial data transfer between the first controller and the second controller is met." Guha, Ahern, and Dolkas, taken alone or in combination, do not disclose or suggest at least these features.

As discussed above, Guha discloses that a receiver of a frame will send acknowledgements to the sender on a per frame basis. If the sender does not receive the proper sequence of acknowledgements, it will retransmit the unacknowledged frames. However, Guha does not disclose or suggest all of the features of Applicant's claim 35. In addition, the Examiner admits Guha does not disclose "an error recovery processing unit or a first controller and a second controller" (Office Action, page 9). The Examiner then alleges Dolkas and Ahern make up for the deficiencies of Guha. Applicant respectfully disagrees.

Dolkas discloses a resynchronization process during which data is transformed to and from a link layer protocol format. See col. 7, lines 15-28. Ahern discloses a



bridge accessible by a host process that can expand access over a first bus to a second bus and that address and data are taken from a bus one transaction at a time and together with four bits that act either as control or byte enable signals. However, the cited prior art references, taken alone or in combination, do not disclose or suggest all of the features of Applicant's claim 35. For example, the applied prior art references do not disclose or suggest at least "an error detector that detects a link error between the first controller and the second controller when the first controller receives the responses having nonconsecutive identifier numbers."

Accordingly, Guha, Dolkas, and Ahern, taken alone or in combination, do not disclose or suggest claim 35. Claim 35 is thus allowable over the Examiner's proposed combination of Guha, Dolkas, and Ahern. Claims 36 and 37 are also allowable at least due to their dependence from claim 35.

### CONCLUSION

In view of the foregoing remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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